

2020-11-04 - SLPG Meeting

Date & Time

20:00 to 21:00 UTC Wednesday 4th November 2020

Goals

- Start development of postcoordination guidance

Location

[Zoom meeting link](#) (password: 764978)

Attendees

- Chair: [Linda Bird](#)
- Project Group: [Michael Lawley](#), [Peter Jordan](#), [Anne Randorff Højen](#), [Kai Kewley](#), [Rob Hausam](#)

Apologies

[Daniel Karlsson](#) , [Ed Cheetham](#)

Agenda and Meeting Notes

Description	Owner	Notes
Welcome and agenda	Linda Bird	NOTE: Next meeting to be held on Wednesday 18th November
Postcoordination Guidance	Linda Bird , Anne Randorff Højen , Kai Kewley	Practical Guide to Postcoordination • Discuss use cases for postcoordination ◦ Mapping local codes to postcoordinated expressions ◦ Natural language processing – e.g. "" ◦ Semantic interoperability (e.g. between FHIR resource instances) ◦ Comparing 2 clinical meanings for equivalence and subsumption ▪ E.g. Extemporaneous drug formulations • Comments ◦ Should there be a syntactic distinction between refinement and constructive addition (ie adding a new role group) • Agree on approach and next steps - potentially including: ◦ Agree on list of expression forms that need defining - 3.4 Transforming Expressions ◦ Discuss different types of transformations required ◦ Explain transformation steps • Example - Oophorectomy with laser device 1. 83152002 Oophorectomy : 405815000 Procedure device = 122456005 Laser device ◦ Close-to-user-form - not concept model valid - Refinement is merged with every role group in the definition of focus concept ◦ If there is a single role group in the definition of the focus concept ◦ If there is more than one (non-self-grouped) role group in the definition then flag as ambiguous and require refinement ◦ Identify self-grouped attributes and always group separately - Priority, Due to, After, Before, During, Clinical course, Temporally related to, and all Observable entity attributes ▪ See Relationship Group 2. 83152002 Oophorectomy : { 405815000 Procedure device = 122456005 Laser device } 3. 83152002 Oophorectomy : { 260686004 Method = 129304002 Excision - action , 405813007 Procedure site - direct = 15497006 Ovarian structure , 405815000 Procedure device = 122456005 Laser device } 4. 71388002 Procedure : { 260686004 Method = 129304002 Excision - action , 405813007 Procedure site - direct = 15497006 Ovarian structure , 405815000 Procedure device = 122456005 Laser device } 5. 83152002 Oophorectomy + 416376001 Laser procedure : { 260686004 Method = 129304002 Excision - action , 405813007 Procedure site - direct = 15497006 Ovarian structure , 405815000 Procedure device = 122456005 Laser device } 6. 83152002 Oophorectomy + 416376001 Laser procedure :

		• Example - Excision of the ovary 1. 65801008 Excision : 405813007 procedure site - direct = 15497006 Ovarian structure 2. 65801008 Excision : { 405813007 procedure site - direct = 15497006 Ovarian structure } 3. 65801008 Excision : { 260686004 Method = 129304002 Excision - action , 405813007 procedure site - direct = 15497006 Ovarian structure } 4. 71388002 Procedure : { 260686004 Method = 129304002 Excision - action , 405813007 procedure site - direct = 15497006 Ovarian structure } 5. 64887002 Operation on ovary (procedure) + 450669005 Excision of adnexa of uterus (procedure) + 107983004 Endocrine system excision (procedure) : { 260686004 Method = 129304002 Excision - action , 405813007 Procedure site - Direct = 15497006 Ovarian structure } • Example - Emergency excision of appendix 1. 65801008 Excision : 405813007 Procedure site - direct = 66754008 Appendix structure , 260870009 Priority = 25876001 Emergency 2. 65801008 Excision : { 405813007 Procedure site - direct = 66754008 Appendix structure , 260870009 Priority = 25876001 Emergency } 3. 65801008 Excision : { 260686004 Method = 129304002 Excision - action , 405813007 Procedure site - direct = 66754008 Appendix structure , 260870009 Priority = 25876001 Emergency } 4. 71388002 Procedure : { 260686004 Method = 129304002 Excision - action , 405813007 Procedure site - direct = 66754008 Appendix structure , 260870009 Priority = 25876001 Emergency } • Malignant tumor of right ovary 1. 363443007 Malignant tumor of ovary : 272741003 Laterality = 24028007 Right 2. 363443007 Malignant tumor of ovary : 363698007 Finding site = (15497008 Ovarian structure : 272741003 Laterality = 24028007 Right) 3. 363443007 Malignant tumor of ovary : { 363698007 Finding site = (15497008 Ovarian structure : 272741003 Laterality = 24028007 Right) } 4. 363443007 Malignant tumor of ovary : { 116676008 Associated morphology = 367651003 Malignant neoplasm of primary, secondary or uncertain origin , 363698007 Finding site = (15497008 Ovarian structure : 272741003 Laterality = 24028007 Right) } 5. 645722001 Disease : { 116676008 Associated morphology = 367651003 Malignant neoplasm of primary, secondary or uncertain origin , 363698007 Finding site = (15497008 Ovarian structure : 272741003 Laterality = 24028007 Right) } • Fracture of bone 1. 125605004 Fracture of bone : 363698007 finding site = 84167007 Foot bone 2. 125605004 Fracture of bone : {363698007 finding site = 84167007 Foot bone } 3. 125605004 Fracture of bone : {116676008 Associated morphology = 72704001 Fracture , 363698007 finding site = 84167007 Foot bone } 4. 64572001 Disease : {116676008 Associated morphology = 72704001 Fracture , 363698007 finding site = 84167007 Foot bone }
Other Options for Future Progress		1. Postcoordination and close-to-user transformations 2. URIs for draft editions 3. ECL extensions a. Primitive/Defined filters concept filter b. Concept+Description filters (e.g. effectiveTime, module, active) c. Accessing Refset attributes (e.g. historical association refsets) historical ECL d. OR use full syntax to be able to query any table (e.g. Relationship table) - ie expand ECL into something more verbose (e.g. SNOMED query language) 4. Template extensions

URIs for Extended Editions		How to refer to an 'extended edition' using a URI - e.g. "International Edition plus the following 2 nursing modules: 733983009 IHTSDO Nursing Health Issues module and 733984003 IHTSDO Nursing Activities module Use Case - Need to execute an ECL, that refers to "^ 733991000 Nursing Health Issues Reference Set (foundation metadata concept) " and/or "^ 733990004 Nursing Activities Reference Set (foundation metadata concept) ", where the substrate includes the international edition, plus the modules that include these reference sets July 2020 International Edition URI: http://snomed.info/sct/900000000000207008/version/20200731 July 2020 International Edition + nursing modules URI ?? - For example: • http://snomed.info/sct/900000000000207008/version/20200731/module/733983009/time/20200131/module/733984003/time/20200131 • http://snomed.info/sct/900000000000207008/version/20200731/modules/733983009:733984003 • http://snomed.info/sct/900000000000207008:733983009:733984003/version/20200731:20190731:20200131 • Canonical order? Or order doesn't matter? • Constraints on what can go in the additional packages (only refsets and their metadata)
Querying Refset Attributes	Linda Bird	Proposed syntax to support querying and return of alternative refset attributes (To be included in the SNOMED Query Language) • Example use cases ◦ Execution of maps from international substance concepts to AMT substance concepts ◦ Find the anatomical parts of a given anatomy structure concept (in Anatomy structure and part association reference set) ◦ Find potential replacement concepts for an inactive concept in record ◦ Find the order of a given concept in an Ordered component reference set ◦ Find a concept with a given order in an Ordered component reference set

- Potential syntax to consider (brainstorming ideas)
 - **SELECT ??**
 - SELECT 123 |referenced component|, 456 |target component|
FROM 799 |Anatomy structure and part association refset|
WHERE 123 |referenced component| = (< 888 |Upper abdomen structure| {{ term = "heart" }})
 - SELECT id, moduleId
FROM concept
WHERE id IN (< |Clinical finding|)
AND definitionStatus = |primitive|
 - SELECT id, moduleId
FROM concept, ECL("< |Clinical finding") CF
WHERE concept.id = CF.sctid
AND definitionStatus = |primitive|
 - SELECT ??? |id|, ??? |moduleId|
FROM concept (< |Clinical finding| {{ term = "heart" }} {{ definitionStatus = |primitive| }})
 - **Question** - Can we assume some table joins - e.g. Concept.id = Description.conceptId etc ??
 - **Examples**
 - Try to recast relationships table as a Refset table + graph-based extension
 - Find primitive concepts in a hierarchy
 - **ROW ... ?**
 - ROWOF (|Anatomy structure and part association refset|) ? (|referenced component| , |target component|)
 - same as: ^ |Anatomy structure and part association refset|
 - ROWOF (|Anatomy structure and part association refset|) . |referenced component|
 - same as: ^ |Anatomy structure and part association refset|
 - ROWOF (|Anatomy structure and part association refset|) {{ |referenced component| = << |Upper abdomen structure| }} ? |targetComponentId|
 - ROWOF (< 900000000000496009|Simple map type reference set| {{ term = "My hospital*" }}) {{ 449608002|Referenced component| = 80581009 |Upper abdomen structure| }} ? 900000000000505001 |Map target|
 - (ROW (< 900000000000496009|Simple map type reference set| {{ term = "My hospital*" }}) : 449608002|Referenced component| = 80581009 |Upper abdomen structure|). 900000000000505001 |Map target|
 - **# ... ?**
 - # |Anatomy structure and part association refset| ? |referenced component|
 - # (|Anatomy structure and part association refset| {{ |referenced component| = << |Upper abdomen structure| }} ? |targetComponentId|
 - **? notation + Filter refinement**
 - |Anatomy structure and part association refset| ? |targetComponentId|
 - |Anatomy structure and part association refset| ? |referencedComponent| (Same as ^ |Anatomy structure and part association refset|)
(|Anatomy structure and part association refset| {{ |referencedComponent| = << |Upper abdomen structure| }} ? |targetComponentId|
 - (|Anatomy structure and part association refset| {{ |targetComponentId| = << |Upper abdomen structure| }}) ? |referencedComponent|
 - (|My ordered component refset|: |Referenced component| = |Upper abdomen structure|) ? **|priority order|**
 - ? |My ordered component refset| {{ |Referenced component| = |Upper abdomen structure| }} . |priority order|
 - ? |My ordered component refset| . |referenced component|
 - equivalent to ^ |My ordered component refset|
 - ? (<|My ordered component refset|) {{ |Referenced component| = |Upper abdomen structure| }} . |priority order|
 - ? (<|My ordered component refset| {{ term = "map" }}) {{ |Referenced component| = |Upper abdomen structure| }} . |priority order|
 - REFSETROWS (<|My ordered component refset| {{ term = "map" }}) {{ |Referenced component| = |Upper abdomen structure| }} SELECT |priority order|
 - **Specify value to be returned**
 - ? 449608002 |Referenced component|?
734139008 |Anatomy structure and part association refset|
 - ^ 734139008 |Anatomy structure and part association refset| (Same as previous)
 - ? 900000000000533001 |Association target component|?
734139008 |Anatomy structure and part association refset|
 - ? 900000000000533001 |Association target component|?
734139008 |Anatomy structure and part association refset| :
449608002 |ReferencedComponent| = << |Upper abdomen structure|
 - ? 900000000000533001 |Association target component|?
734139008 |Anatomy structure and part association refset|
{{ 449608002 |referencedComponent| = << |Upper abdomen structure| }}
 - (? 900000000000533001 |Association target component|?
734139008 |Anatomy structure and part association refset| :
449608002 |ReferencedComponent| = (<< |Upper abdomen structure|) : |Finding site| = *)

Returning Attributes	Michael Lawley	Proposal (by Michael) for discussion - Currently ECL expressions can match (return) concepts that are either the source or the target of a relationship triple (target is accessed via the 'reverse' notation or 'dot notation', but not the relationship type (ie attribute name) itself. For example, I can write: <pre><< 404684003 Clinical finding : 363698007 Finding site = <<66019005 Limb structure </pre> <pre><< 404684003 Clinical finding . 363698007 Finding site </pre> But I can't get all the attribute names that are used by << 404684003 Clinical finding - Perhaps something like: ? R.type ? (<< 404684003 Clinical finding) - This could be extended to, for example, return different values - e.g. ? Simple map refset . maptarget ? (^ Simple map refset AND < Fracture)
Reverse Member Of	Michael Lawley	Proposal for discussion What refsets is a given concept (e.g. 421235005 Structure of femur) a member of? - Possible new notation for this: ^ , 421235005 Structure of femur ? X ? 421235005 Structure of femur = ^ X

Expression Templates	Peter G. Williams	• ON HOLD WAITING FROM IMPLEMENTATION FEEDBACK FROM INTERNAL TECH TEAM • WIP version - https://confluence.ihtsdotools.org/display/WIPSTS/Template+Syntax+Specification ▪ Added a 'default' constraint to each replacement slot - e.g. default (72673000 Bone structure (body structure)) ▪ Enabling 'slot references' to be used within the value constraint of a replacement slot - e.g. [[+id (<< 123037004 Body structure MINUS << \$findingSite2) @findingSite1]] ▪ Allowing repeating role groups to be referenced using an array - e.g. \$rolegroup[1] or \$rolegroup [!=SELF] ▪ Allow reference to 'SELF' in role group arrays ▪ Adding 'sameValue' and 'allOrNone' constraints to information slots - e.g. sameValue (\$site), allOrNone (\$occurrence) ▪ See changes in red here: 5.1. Normative Specification Examples: [[+id]]: [[1..*] @my_group sameValue(morphology)] { Finding site = [[+id (<<123037004 Body structure (body structure MINUS << \$site SELF)) @site]], Associated morphology = [[+id @my_morphology]] • Implementation feedback on draft updates to Expression Template Language syntax ◦ Use cases from the Quality Improvement Project: ▪ Multiple instances of the same role group, with some attributes the same and others different. Eg same morphology, potentially different finding sites. Note that QI Project is coming from a radically different use case. Instead of filling template slots, we're looking at existing content and asking "exactly how does this concept fail to comply to this template?" For discussion: [[0..1]] { [[0..1]] 246075003 Causative agent = [[+id (< 410607006 Organism) @Organism]] } Is it correct to say either one of the cardinality blocks is redundant? What are the implications of 1..1 on either side? This is less obvious for the self grouped case. Road Forward for SI 1. Generate the parser from the ABNF and implement in the Template Service 2. User Interface to a) allow users to specify template at runtime b) tabular (auto-completion) lookup STL 3. Template Service to allow multiple templates to be specified for alignment check (aligns to none-off) 4. Output must clearly indicate exactly what feature of concept caused misalignment, and what condition was not met. Additional note: QI project is no longer working in subhierarchies. Every 'set' of concepts is selected via ECL. In fact most reports should now move to this way of working since a subhierarchy is the trivial case. For a given template, we additionally specify the "domain" to which it should be applied via ECL. This is much more specific than using the focus concept which is usually the PPP eg Disease. FYI Michael Chu
Description Templates	Kai Kewley	• ON HOLD • Previous discussion (in Malaysia) ▪ Overview of current use ▪ Review of General rules for generating descriptions • Removing tags, words • Conditional removal of words • Automatic case significance • Generating PTs from target PTs • Reordering terms ▪ Mechanism for sharing general rules - inheritance? include? ▪ Description Templates for translation ▪ Status of planned specification

Query Language - Summary from previous meetings	Linda Bird	FUTURE WORK Examples: version and dialect ◦ << 64572001 Disease {{ term = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20180131 ◦ << 64572001 Disease {{ synonym = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20180131 ◦ << 64572001 Disease {{ FSN = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20180131 ◦ << 64572001 Disease {{ FSN = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20180131, DIALECT W ◦ << 64572001 Disease {{ preferredTerm = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20180131, DIALECT Y ◦ << 64572001 Disease {{ acceptableTerm = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20180131, DIALECT Y ◦ (* {{ term = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20180131, DIALECT Z) MINUS (* {{ term = "*heart*" }} VERSION http://snomed.info/sct/900000000000207008/version/20170731, DIALECT W) ◦ X MINUS Y WHERE X = * , Y = (* {{ term = "*heart*" }}) VERSION http://snomed.info/sct/900000000000207008/version/20180131, DIALECT W Notes ◦ Allow nested where, version, language ◦ Scope of variables is inner query
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File	Modified
File general dentistry diagnostic refset members.svg	2020-Nov-03 by Linda Bird
File odontogram refset members.svg	2020-Nov-03 by Linda Bird

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